

Nurse Practitioner Knowledge and Use of Complementary and Alternative Therapies for the  
Management of Chronic Musculoskeletal Pain: A Pilot Study

Student: Courtney Phillips

Faculty Advisor: Dr. Susan Letvak

Lloyd Disciplinary Honors College

Spring 2019

### **Abstract**

Over prescription and misuse of opiates in the treatment of chronic musculoskeletal pain (CMP) in adults can result in patients becoming dependent on opiates for pain relief. In adjunct with current regulations on opiate prescribing practices, complementary and alternative medicine (CAM) practices should be incorporated into the plan of care. Nurse practitioners (NPs) are in an adequate position to educate their patients on CAM therapies to minimize their use of prescription opiates. However, they must be knowledgeable of CAM therapies in order to educate for their use. A descriptive survey was completed by fourteen ( $n = 14$ ) NPs to determine their knowledge, beliefs, and attitudes pertaining to CAM and treatment and referral practices for those with CMP. Results indicate that NP knowledge of CAM is minimal and often learned through self-inquiry. Research findings suggest the need for NPs to be properly educated on the use of CAM in order to effectively implement them into the treatment plan for those with CMP and decrease the need for pharmacological relief (opioids).

## Introduction

Over prescription and misuse of opiates in the treatment of chronic musculoskeletal pain (CMP) in adults can result in patients becoming dependent on opiates for pain relief. As dependency builds, so does tolerance, requiring a higher prescribed dose in order to achieve the desired effect. According to the National Institute on Drug Abuse (2018), roughly 21 to 29 percent of patients prescribed opioids for chronic pain misuse them. Between 8 and 12 percent of those individuals develop an opioid use disorder.<sup>4</sup> The Diagnostic and Statistical Manual of Mental Disorders, 5<sup>th</sup> Edition (DSM-5) defines opioid use disorder as “a problematic pattern of opioid use leading to clinically significant impairment or distress”.<sup>1</sup> In order to be diagnosed with opioid use disorder, clinical impairment must be manifested by at least two DSM-5 criteria within a 12-month period. These criteria include: using large amounts of opioids over a longer period than intended; reducing social, occupational, or recreational activities due to opioid use; continued use of opiates despite physical or psychosocial harm; and experiencing tolerance and/or withdrawal.

The treatment of chronic pain requires a multifaceted approach. Improper prescribing practices have been a contributing factor to the current opioid epidemic. Some providers are reluctant to encourage the use of complementary and alternative approaches to treat chronic pain. Complementary and alternative medicine (CAM) therapies are a group of diverse medical and health care practices that are not considered to be a part of conventional medicine.<sup>6</sup> The use of CAM offers a new integrative approach to medicine that embraces the importance of the patient-provider relationship, focuses on the whole person, is informed by evidence, and makes use of all therapeutic approaches to achieve optimal health and well-being.<sup>5</sup>

Nurse practitioners (NPs) are in a position to educate their patients on the use of CAM

therapies in order to minimize their use of prescription opiates. However, they must be knowledgeable of various CAM therapies in order to advocate for their use. The purpose of this feasibility study is to determine NP knowledge, treatment, and referral practices (if any) on the use of CAM to decrease the misuse of opiates in the treatment of chronic pain.

## **Methods**

Data were gathered using a descriptive survey design to elicit the treatment and referral practices of NPs and their knowledge, beliefs, and attitudes pertaining to CAM. A survey comprised of basic demographic information and open-ended questionnaires was delivered via Qualtrics online survey tool to a convenience sample of up to 20 practicing NPs. Prior to gathering participant data, approval by the University Institutional Review Board was obtained. In order to protect the privacy of subjects, no personal identifiers were collected and responses remained anonymous.

## **Sample**

Fourteen NPs voluntarily participated in this study ( $n = 14$ ), all of whom held advanced practice degrees (6 had a master of science in nursing degree, 3 had a doctorate of nursing practice degree, and 5 had a doctor of philosophy degree). The mean number of years of experience as an NP was 9.64 years. Five NPs reported working in the acute care setting ( $n = 5$ ; 35.71%), eight reported working in the outpatient setting ( $n = 8$ ; 57.14%), and one was not currently practicing ( $n = 1$ ; 7.14%).

## **Results**

Participant responses were categorized into three themes: (1) knowledge of CAM; (2) treatment practices for CMP; and (3) referral practices.

### ***Knowledge of CAM***

NPs were asked to rate their knowledge of CAM using a Likert scale as presented in table 1.

Although NPs are in ample positions to educate patients about various treatment options for CMP, these findings suggest that NPs are equipped with minimal to fair knowledge of CAM therapies. How their knowledge was obtained varied from course content while pursuing continuing education, to personal readings and interactions with colleagues. Each NP response provided a different definition of CAM. These definitions were centered around the concept of natural modalities, holistic approaches, alternative therapies, and practices that fall outside of traditional western medicine. According to Table 2, the majority of participants were in agreement that CAM plays an important role in the treatment of various health conditions. When asked to list CAM therapies, the three most common responses were acupuncture, chiropractics, essential oils and other natural products.

TABLE 1. NP KNOWLEDGE OF CAM THERAPIES

<i>No knowledge</i> 0/14 (0%)	<i>Minimal Knowledge</i> 5/14 (35.71%)	<i>Fair/Good knowledge</i> 8/14 (57.14%)	<i>Fully Knowledgeable</i> 1/14 (7.14%)
----------------------------------	---	---	--

TABLE 2. THE IMPORTANCE OF CAM IN TREATMENT

<i>Unessential</i> 0/14 (0%)	<i>Minor Importance</i> 4/14 (28.57%)	<i>Very Important</i> 9/14 (64.29%)	<i>Essential</i> 1/14 (7.14%)
---------------------------------	--	--	----------------------------------

---

### ***Treatment Practices for CMP***

In light of the current opioid epidemic, we asked NPs to express their likelihood of prescribing an opioid for someone seeking treatment for CMP. Although most NPs (n = 8) were unlikely to prescribe an opioid, those who were neither likely nor unlikely (n = 2), slightly likely (n = 2), and moderately likely (n = 2) were evenly distributed. A majority of NPs (n = 10; 71.43%) claimed to have made adjustments to their current opioid prescribing practices. One participant chose to exclude this answer in their responses. Although opioid prescribing guidelines vary by state, practitioners can individualize their own prescribing practices within state regulations. NPs reported reducing their prescription of opioids by encouraging non pharmacological interventions such as hot/cold therapy, physical and occupational therapy, and rest alongside the use of a nonsteroidal anti-inflammatory (NSAID) such as Ibuprofen as a first line of treatment. If an opioid is warranted, an NP suggested using the lowest prescription strength scheduled for shorter periods (e.g. 2 days v. 5) or as needed. For those already receiving opioids as treatment for CMP, recommending CAM in adjunct to the use of an opioid can prove beneficial and assist in potentially decreasing the dose needed to manage CMP. If opioid use disorder is suspected, it is important to facilitate treatment while maintaining a therapeutic patient-provider relationship.

### ***Referral Practices***

While some (n = 5) NPs ask about CAM therapies during every patient visit, half (50%) of NPs reported only the occasional inquiry of CAM during yearly physicals. Although most (n = 9; 64.3%) NPs stated that they are likely to recommend the use of CAM to their patients, they also

reported that their practice does not provide them with the resources in order to do so. Upon follow up when CAM therapies were incorporated into the treatment plan for those with CMP, a majority of patients (n = 9; 64.29%) reported being somewhat satisfied with treatment while some (n = 2) reported being extremely satisfied.

## **Discussion**

Over prescription and misuse of opioids in the treatment of chronic pain is a well known clinical problem that can lead to dependency and opioid use disorder. The treatment of chronic pain is complex and requires a multi-dimensional approach due to each individual's experiences with pain being unique. Although pharmacological pain relief (opioids) may sometimes be warranted, they are often prescribed without additional patient education on complementary or alternative treatments. As suggested by Mehl-Madrona, Mainguy, and Plummer<sup>3</sup>, the use of CAM is effective in managing pain resulting in reduced doses of opioids or some individuals choosing to stop their use altogether. While CAM therapies such as chiropractics, acupuncture, massage, and yoga are effective in adjunct with pharmacological relief, there is a lifestyle change associated with their use for pain relief. Eaves and co-authors<sup>2</sup> illustrated that although skeptical at first, the use of CAM therapies gives patients a sense of empowerment over their care and motivation to seek additional coping strategies to manage chronic pain.

The integration of CAM therapies into conventional practice can be used to decrease the misuse of opiates in the treatment of chronic pain and improve quality of life. NPs embrace a holistic approach to care, implementing diverse cultural beliefs into the care they provide. Although pharmacologic strategies are effective, prescribing opioids for the treatment of CMP does not contribute to the goal of spiritual, mental, emotional and physical well-being. NPs in

the clinical setting have a great influence on patient care and the management of CMP. The results of this study illustrates that NPs have minimal/fair knowledge on the use of CAM in the management of CMP. A thorough pain assessment to determine the onset, location, duration, aggravating and relieving factors is the first step in understanding the patient's needs. Patients should be educated while under the care of NPs on the use of a non-steroidal anti-inflammatory (NSAID), positioning techniques, the use of yoga, massage, chiropractics, or acupuncture in adjunct to their treatment plan prior to attempting treatment with opioids.

The combination of CAM therapies and conventional medicine presents a holistic approach that considers all factors that influence health, wellness, and disease – mind, body, and spirit. Implementing an integrative approach to medicine builds a partnership between patients and practitioner and allows them to recognize the use of natural, less-invasive intervention whenever possible. If NPs seek to expand their knowledge of CAM when approaching treatment options for CMP, they are becoming models for holistic treatment approaches to patient care.

## **Conclusion**

A limitation to this study was the small sample size. Therefore, a larger study with an adequate sample is needed to further validate study findings. These findings indicate that NPs are in an optimal position to educate patients on the use of CAM therapies in order to manage CMP and minimize the need for opioid pain relief. This research indicates a need for NPs to be adequately educated on CAM and how to access them in order for their patients to receive a holistic approach to care and minimize the amount, strength, or frequency of opioid needed to manage CMP.



## References

1. American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Arlington, VA: American Psychiatric Publishing.
2. Eaves, E. R., Sherman, K. J., Ritenbaugh, C., Hsu, C., Nichter, M., Turner, J. A., & Cherkin, D. C. (2015). A qualitative study of changes in expectations over time among patients with chronic low back pain seeking four CAM therapies. *BMC Complementary and Alternative Medicine*, 15, 12.
3. Mehl-Madrona, L, Mainguy, B, Plummer, J. (2016). Integration of complementary and alternative medicine therapies into primary-care pain management for opiate reduction in a rural setting. *Journal of Alternative & Complementary Medicine*, 22 (8), 621-626.
4. National Institute on Drug Abuse. (2018). Opioid overdose crisis. Retrieved from <https://www.drugabuse.gov/drugs-abuse/opioids/opioid-overdose-crisis>
5. The University of Arizona (UA) Center for Integrative Medicine. (2016) What is integrative medicine? Retrieved from <https://integrativemedicine.arizona.edu/about/definition.html>
6. U.S. National Library of Medicine. (2018) Complementary and alternative medicine. Retrieved from <https://www.nlm.nih.gov/tsd/acquisitions/cdm/subjects24.html>